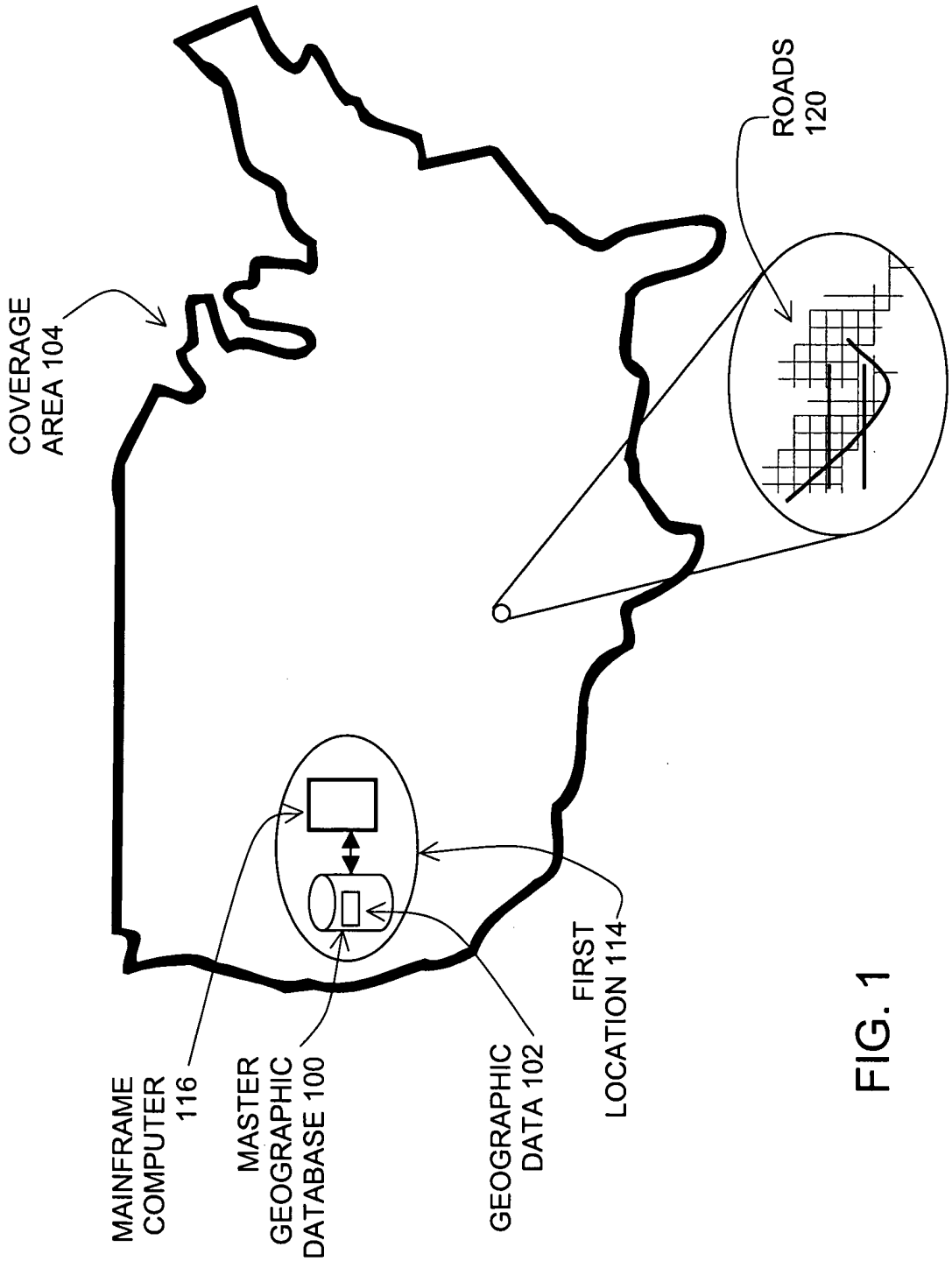
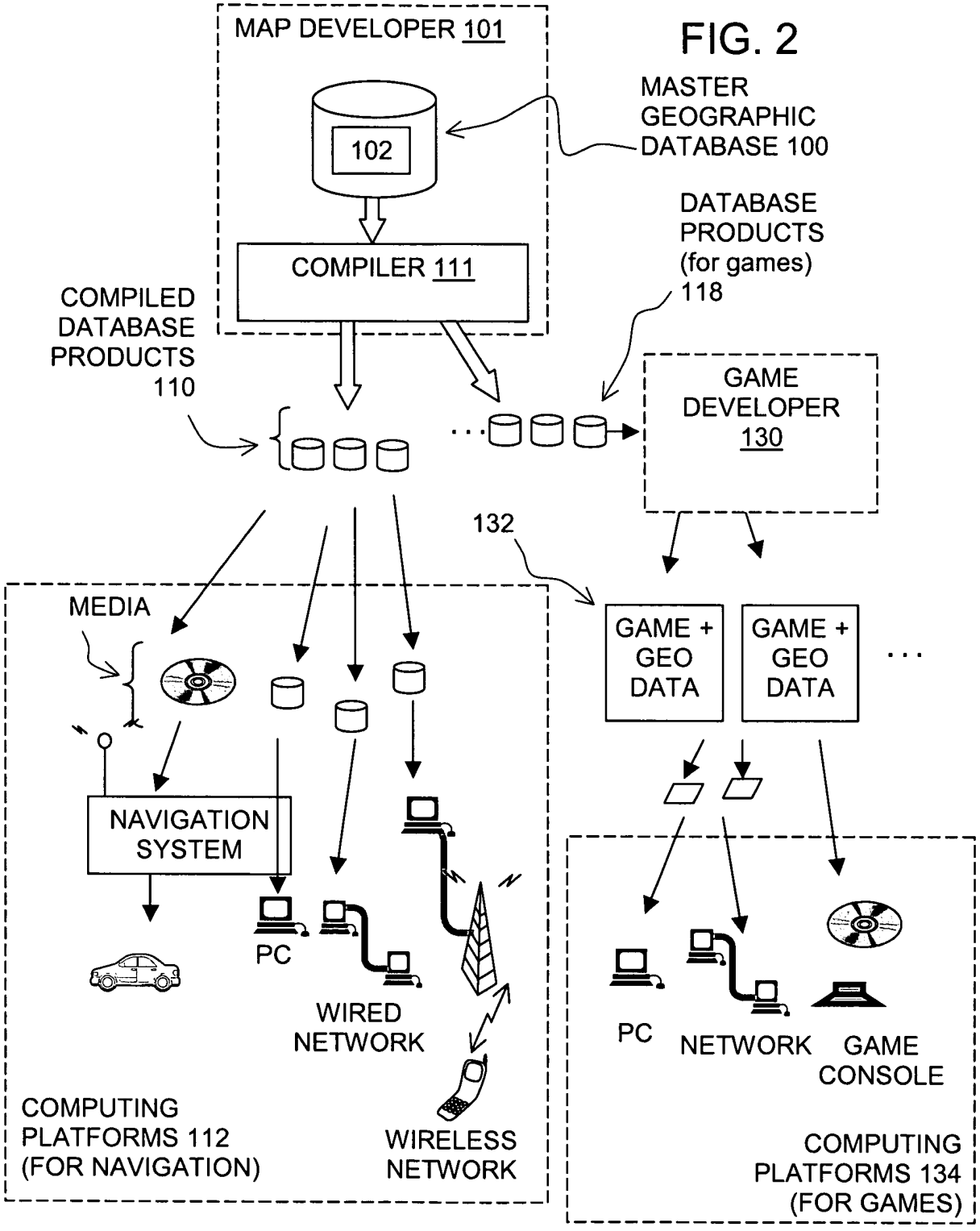

COVERAGE AREA 104
ROADS 120
MAINFRAME COMPUTER 116
MASTER GEOGRAPHIC DATABASE 100
GEOGRAPHIC DATA 102
FIRST LOCATION 114

FIG. 1

FIG. 2


MAP DEVELOPER 101
102
MASTER GEOGRAPHIC DATABASE 100
COMPILER 111
DATABASE PRODUCTS (for games) 118
COMPILED DATABASE PRODUCTS 110
GAME DEVELOPER 130
132
MEDIA
GAME + GEO DATA
GAME + GEO DATA
NAVIGATION SYSTEM
PC
WIRED NETWORK
COMPUTING PLATFORMS 112 (FOR NAVIGATION)
WIRELESS NETWORK
PC
NETWORK
GAME CONSOLE
COMPUTING PLATFORMS 134 (FOR GAMES)

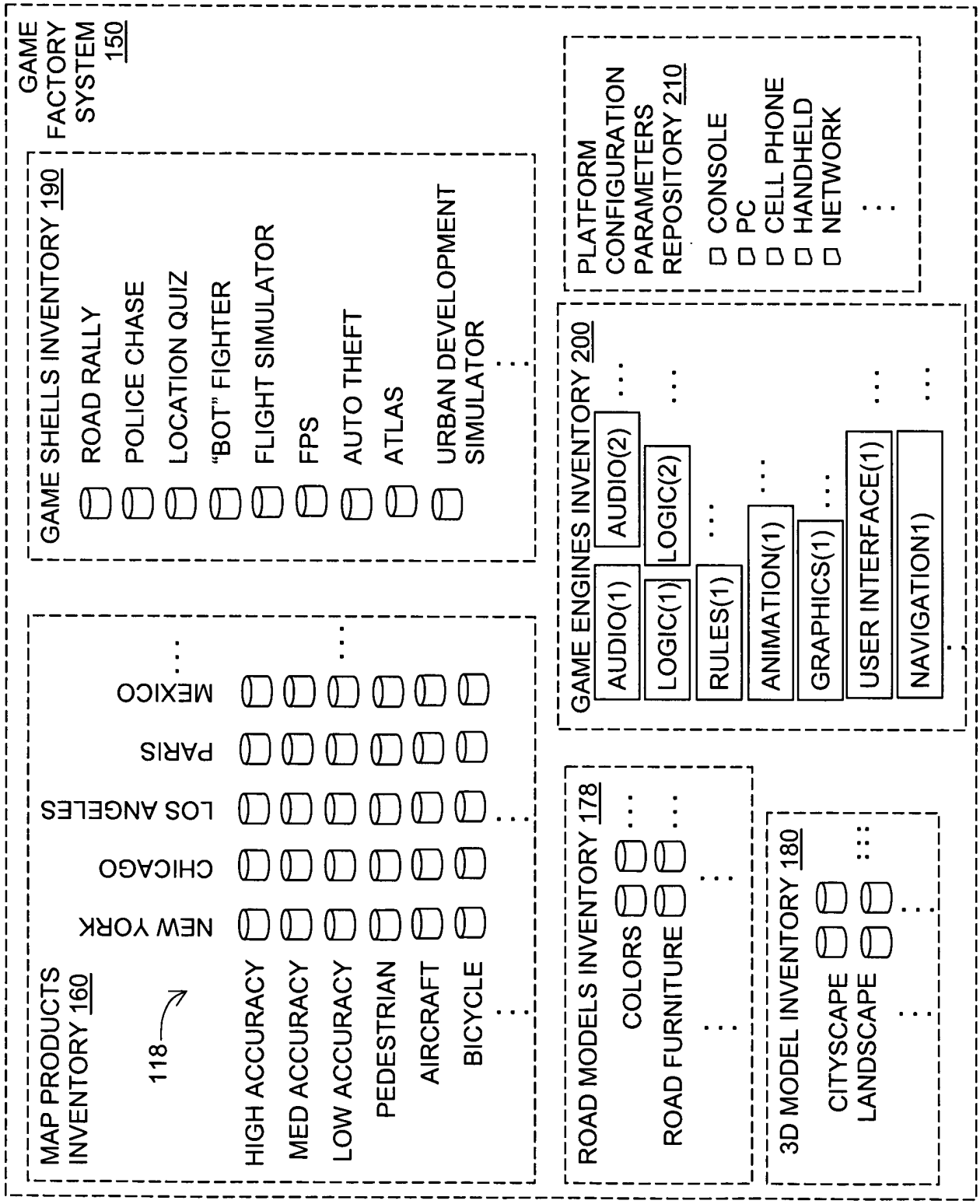

GAME FACTORY SYSTEM 150
GAME SHELLS INVENTORY 190
ROAD RALLY
POLICE CHASE
LOCATION QUIZ
"BOT" FIGHTER
FLIGHT SIMULATOR
FPS
AUTO THEFT
ATLAS
URBAN DEVELOPMENT SIMULATOR
PLATFORM CONFIGURATION PARAMETERS REPOSITORY 210
CONSOLE
PC
CELL PHONE
HANDHELD
NETWORK
MAP PRODUCTS INVENTORY 160
118
NEW YORK
CHICAGO
LOS ANGELES
PARIS
MEXICO
HIGH ACCURACY
MED ACCURACY
LOW ACCURACY
PEDESTRIAN
AIRCRAFT
BICYCLE
GAME ENGINES INVENTORY 200
AUDIO(1)
AUDIO(2)
LOGIC(1)
LOGIC(2)
RULES(1)
ANIMATION(1)
GRAPHICS(1)
USER INTERFACE(1)
NAVIGATION1)
ROAD MODELS INVENTORY 178
COLORS
ROAD FURNITURE
3D MODEL INVENTORY 180
CITYSCAPE
LANDSCAPE

FIG. 3

FIG. 4

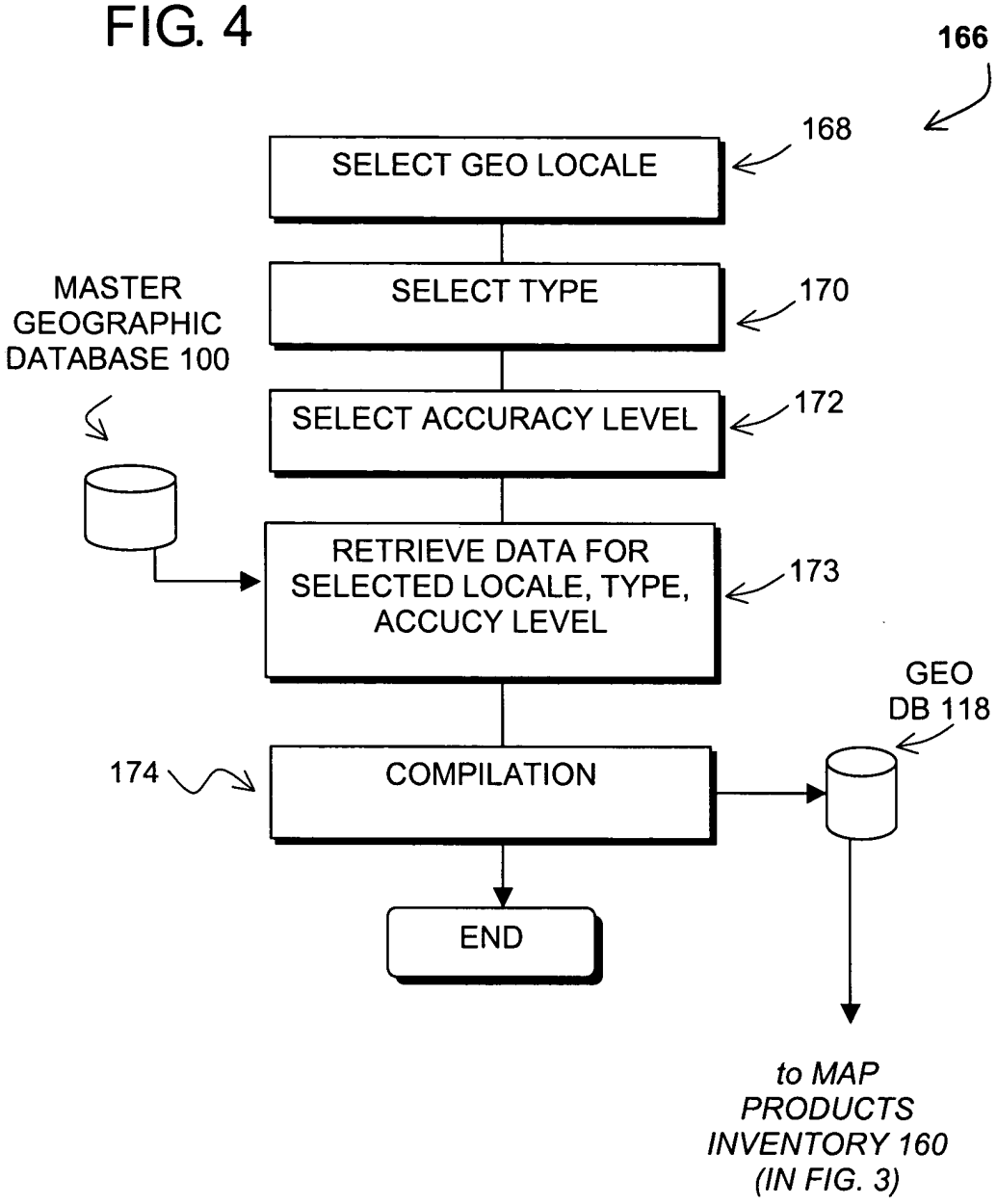

166
168
SELECT GEO LOCALE
MASTER GEOGRAPHIC DATABASE 100
SELECT TYPE
170
SELECT ACCURACY LEVEL
172
RETRIEVE DATA FOR SELECTED LOCALE, TYPE, ACCUCY LEVEL
173
GEO DB 118
174
COMPILATION
END
to MAP PRODUCTS INVENTORY 160 (IN FIG. 3)

FIG. 5

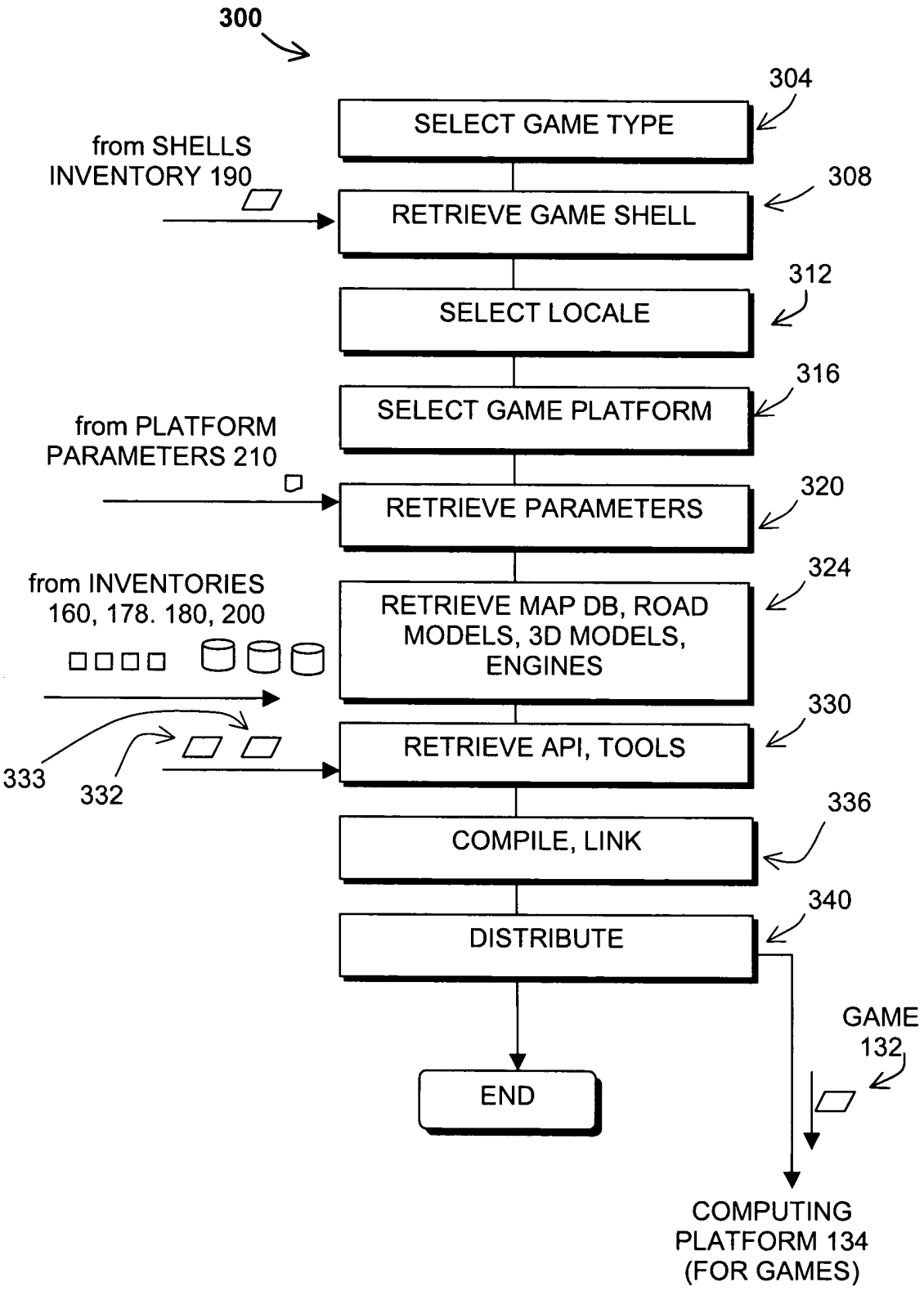

300
304
SELECT GAME TYPE
from SHELLS INVENTORY 190
308
RETRIEVE GAME SHELL
312
SELECT LOCALE
316
SELECT GAME PLATFORM
from PLATFORM PARAMETERS 210
320
RETRIEVE PARAMETERS
from INVENTORIES 160, 178. 180, 200
324
RETRIEVE MAP DB, ROAD MODELS, 3D MODELS, ENGINES
330
RETRIEVE API, TOOLS
333
332
336
COMPILE, LINK
340
DISTRIBUTE
GAME 132
END
COMPUTING PLATFORM 134 (FOR GAMES)

FIG. 6

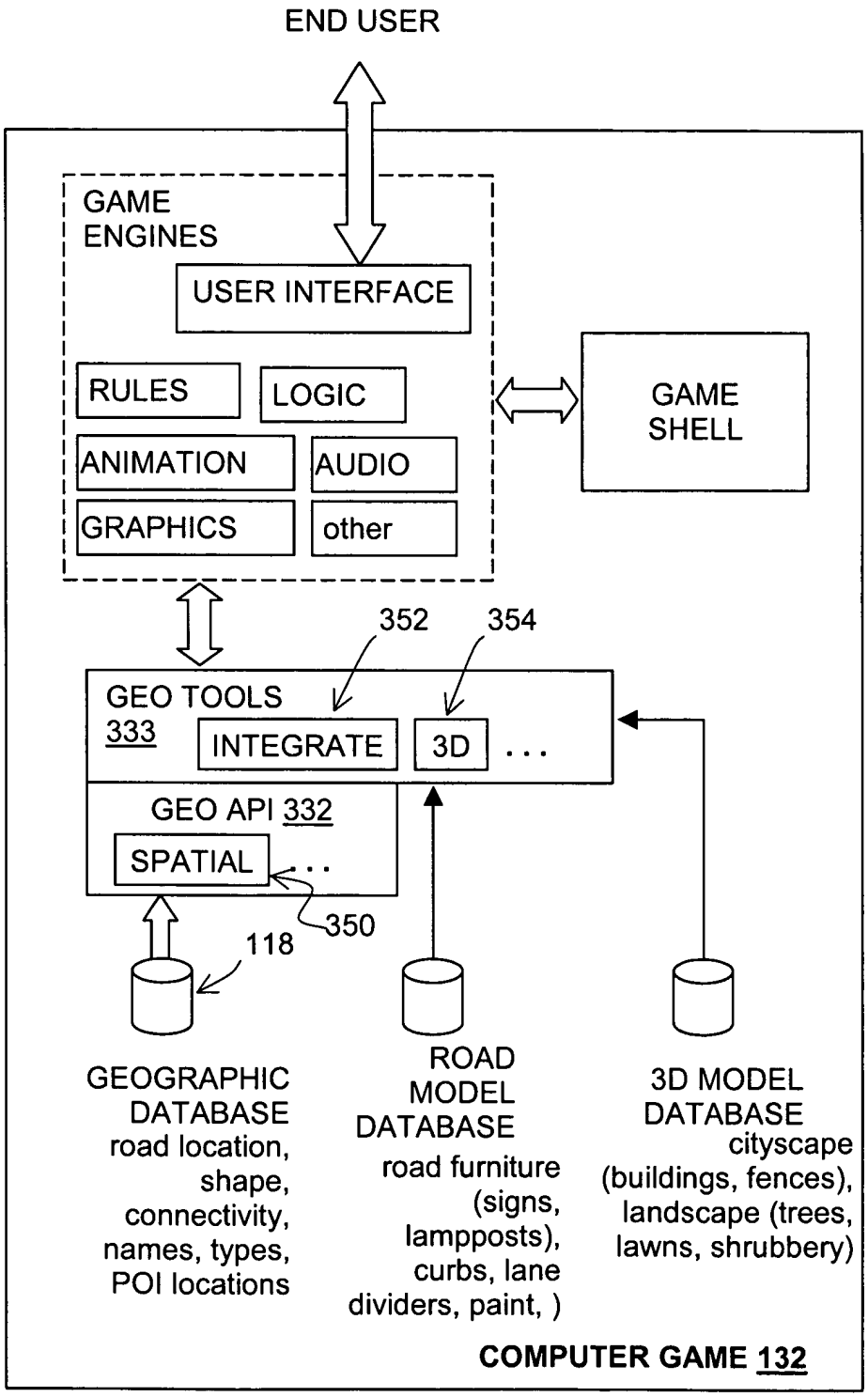
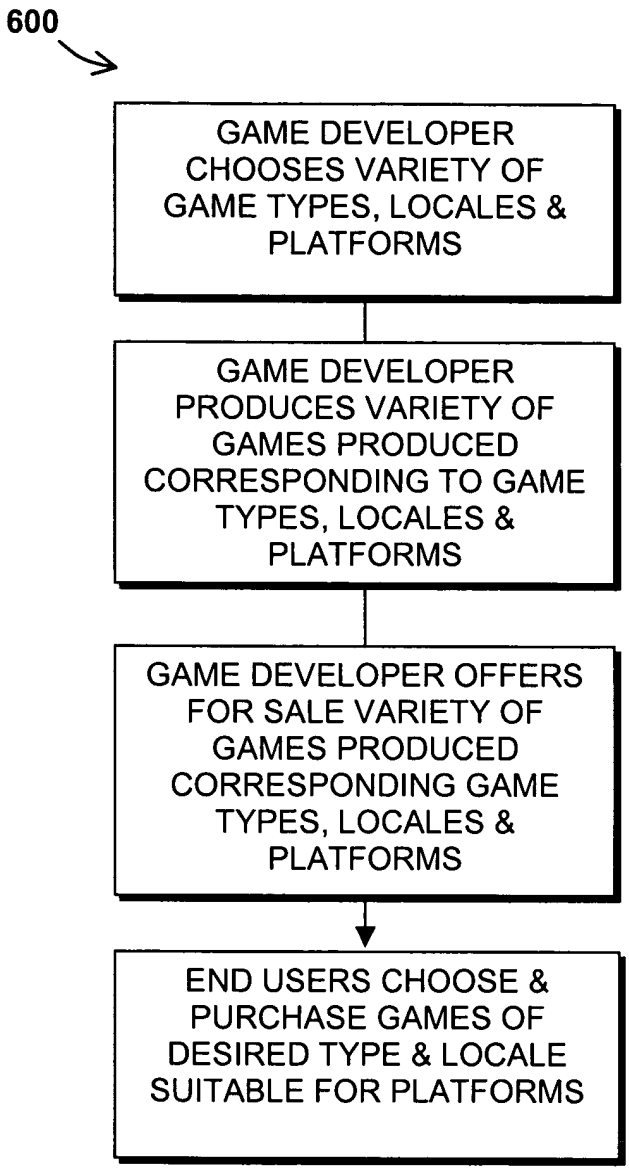

END USER
GAME ENGINES
USER INTERFACE
RULES
LOGIC
ANIMATION
AUDIO
GRAPHICS
other
GAME SHELL
352
354
GEO TOOLS 333
INTEGRATE
3D
. . .
GEO API 332
SPATIAL
. . .
350
118
GEOGRAPHIC DATABASE road location, shape, connectivity, names, types, POI locations
ROAD MODEL DATABASE road furniture (signs, lampposts), curbs, lane dividers, paint,)
3D MODEL DATABASE cityscape (buildings, fences), landscape (trees, lawns, shrubbery)
COMPUTER GAME 132

FIG. 7


600
GAME DEVELOPER CHOOSES VARIETY OF GAME TYPES, LOCALES & PLATFORMS
GAME DEVELOPER PRODUCES VARIETY OF GAMES PRODUCED CORRESPONDING TO GAME TYPES, LOCALES & PLATFORMS
GAME DEVELOPER OFFERS FOR SALE VARIETY OF GAMES PRODUCED CORRESPONDING GAME TYPES, LOCALES & PLATFORMS
END USERS CHOOSE & PURCHASE GAMES OF DESIRED TYPE & LOCALE SUITABLE FOR PLATFORMS

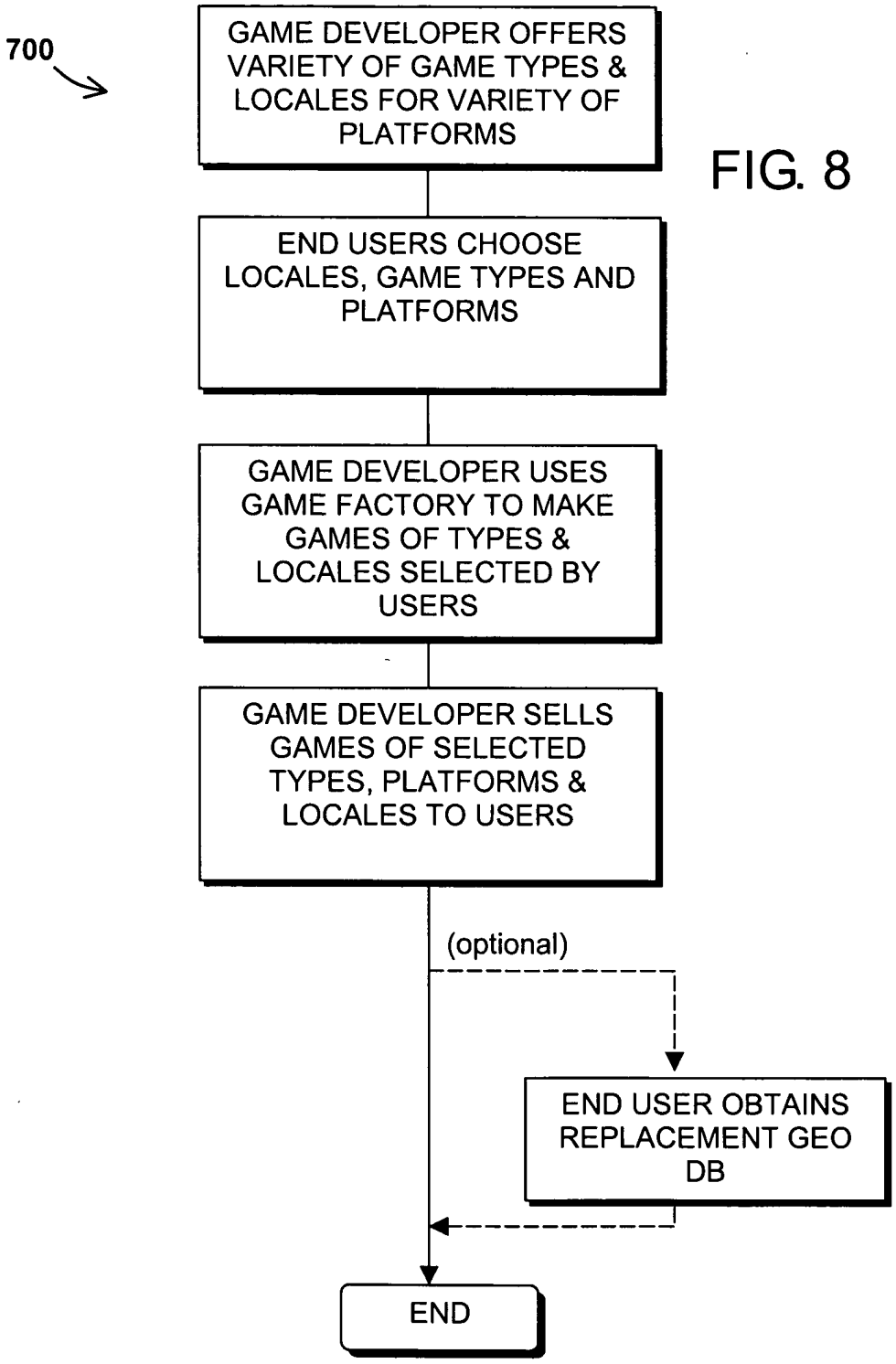

700
GAME DEVELOPER OFFERS VARIETY OF GAME TYPES & LOCALES FOR VARIETY OF PLATFORMS
END USERS CHOOSE LOCALES, GAME TYPES AND PLATFORMS
GAME DEVELOPER USES GAME FACTORY TO MAKE GAMES OF TYPES & LOCALES SELECTED BY USERS
GAME DEVELOPER SELLS GAMES OF SELECTED TYPES, PLATFORMS & LOCALES TO USERS
(optional)
END USER OBTAINS REPLACEMENT GEO DB
END

FIG. 8

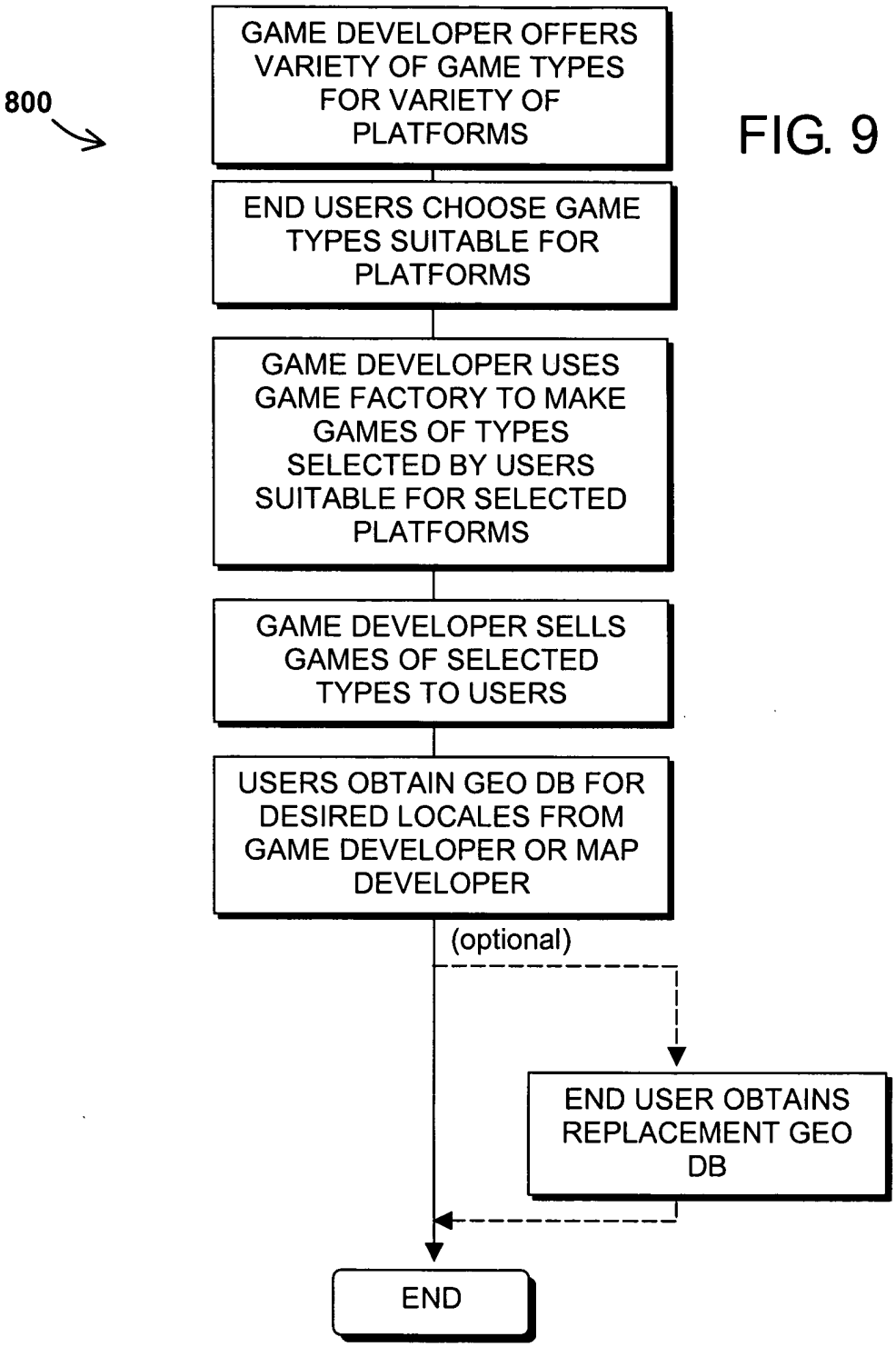

800
GAME DEVELOPER OFFERS VARIETY OF GAME TYPES FOR VARIETY OF PLATFORMS
END USERS CHOOSE GAME TYPES SUITABLE FOR PLATFORMS
GAME DEVELOPER USES GAME FACTORY TO MAKE GAMES OF TYPES SELECTED BY USERS SUITABLE FOR SELECTED PLATFORMS
GAME DEVELOPER SELLS GAMES OF SELECTED TYPES TO USERS
USERS OBTAIN GEO DB FOR DESIRED LOCALES FROM GAME DEVELOPER OR MAP DEVELOPER
(optional)
END USER OBTAINS REPLACEMENT GEO DB
END

FIG. 9

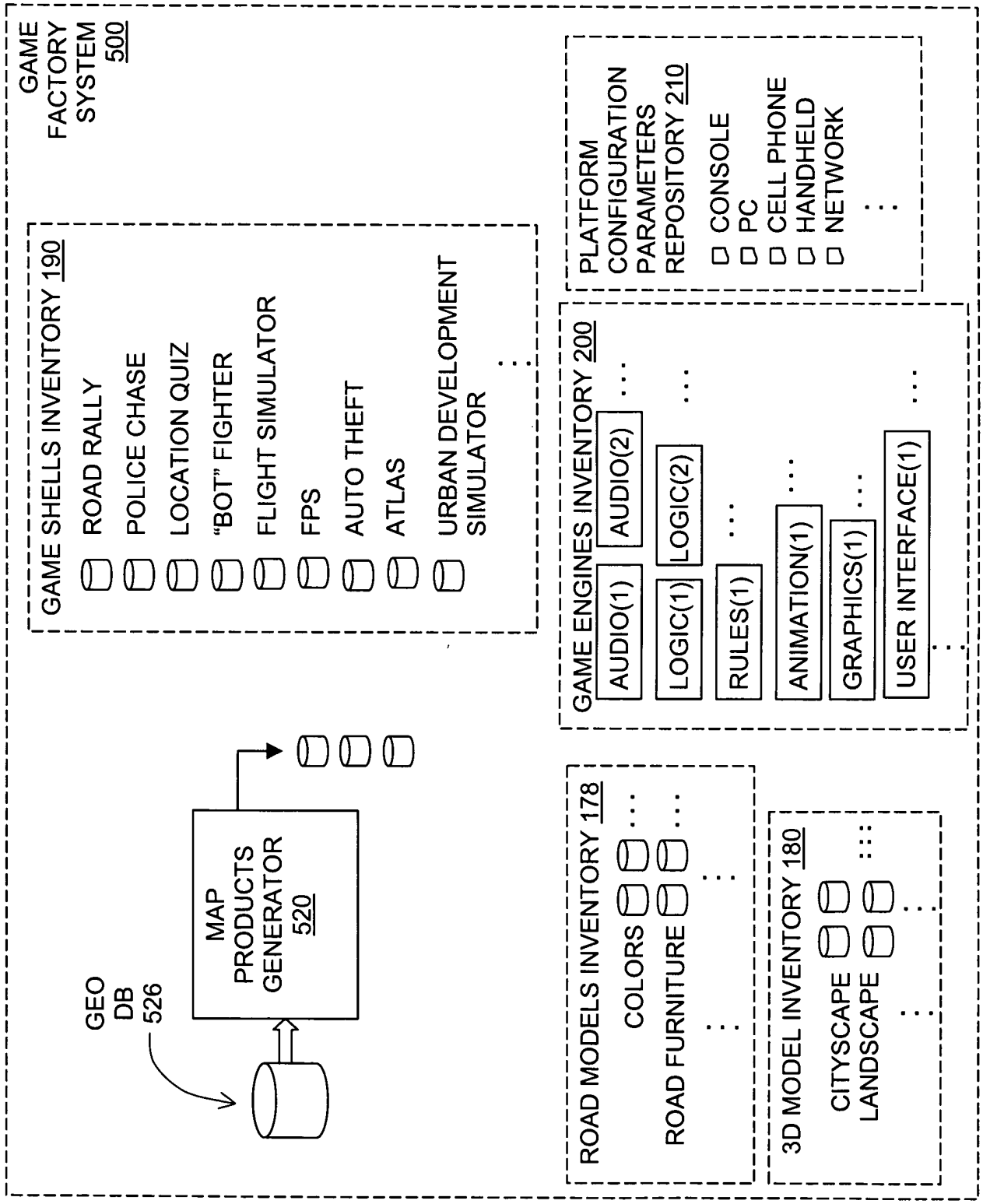

GAME FACTORY SYSTEM 500
GAME SHELLS INVENTORY 190
ROAD RALLY
POLICE CHASE
LOCATION QUIZ
"BOT" FIGHTER
FLIGHT SIMULATOR
FPS
AUTO THEFT
ATLAS
URBAN DEVELOPMENT SIMULATOR
PLATFORM CONFIGURATION PARAMETERS REPOSITORY 210
CONSOLE
PC
CELL PHONE
HANDHELD
NETWORK
GAME ENGINES INVENTORY 200
AUDIO(1)
AUDIO(2)
LOGIC(1)
LOGIC(2)
RULES(1)
ANIMATION(1)
GRAPHICS(1)
USER INTERFACE(1)
ROAD MODELS INVENTORY 178
COLORS
ROAD FURNITURE
3D MODEL INVENTORY 180
CITYSCAPE
LANDSCAPE
MAP PRODUCTS GENERATOR 520
GEO DB 526

FIG. 10